

Dual Switching Regulator

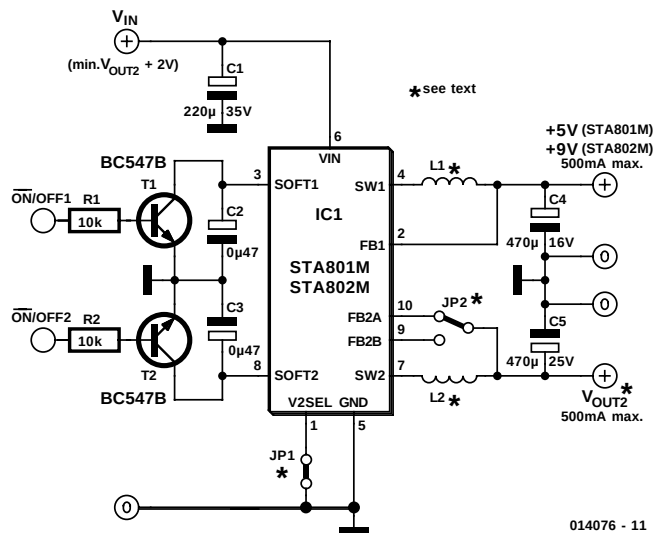
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There are presently many switching regulator ICs. However, the STA801 and STA802 provide two switching regulators in a single package, each capable of supplying a maximum current of 0.5 A. Each device in the Allegro Microsystems STA800 series (www.allegromicro.com) contains a first step-down switcher with an output voltage of +5 V (STA801M) or +9 V (STA802M) and a second switcher that can be jumper-programmed for an output voltage of +9 V, +11.5 V, +12 V or +15 V. Jumpers 1 and 2 in the schematic diagram must be installed according to the table to achieve the desired output voltage.

The input voltage must be at least 2 V greater than the output voltage. The storage inductors L1 and L2 have values of 100 μ H for a +5-V output and 150 μ H for output voltages between 9 V and 15 V. Capacitors C1 and C2 are Softstart electrolytics, which cause the output voltages to ramp up gradually. Each of the converters can be disabled via transistors T1 and T2 respectively (High = shutdown).

The STA800 components described here may be obtained from Spoerle distributors, see www.spoerle.com. Suitable inductors can be found in the Coilcraft DO3316 series, for example (www.coilcraft.com).

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Jp1	Jp2	STA 801M	STA 802M	required Vin
open	Pin 9	9,0 V	9,1 V	> 11 V
open	Pin 10	11.5 V	11.7 V	> 14 V
closed	Pin 9	12.1 V	12.1 V	> 14 V
closed	Pin 10	15.5 V	15.7 V	> 18 V